or may not be transparent to the end user. If non-transparent changes in service are made at the same time, interval is an adequacy measure (see above for loop/platform differences). If no service changes are made or the changes are otherwise transparent to the end user, a performance measure may still be appropriate, albeit related to transactional, rather than service concerns.

- Percent Service Provisioned Out of Interval: Measured as a percentage of service orders completed more than X days. Ideally, measured incrementally by day. For example, orders completed in more than 3 days, 4 days, 5 days, and 6 days. This performance measure depicts the tail of the interval curve. Combined with the Average Installation Interval, portrays a robust picture of provisioning cycle time.

- Percent Trunks Provisioned Out of Interval: While not related to end-user perception of service, this performance measure depicts the speed with which the CLEC can build or expand its network capability so as to provide service in a timely manner. As such, it measures whether the CLEC has been provided the wherewithal to provide local service–a "meaningful opportunity to compete."
- Port Availability: Measures, in a facilities-based interconnection arrangement, the timely availability of switching ports through which a CLEC interconnects with the BOC's network.
- Percent Missed Appointments–Company Reasons: A critical performance measure, when tied to provisioning interval, of provisioning cycle-time performance. BOCs have historically used this as a key measure, and reporting of results is required by many state regulatory bodies and the FCC. Missed appointments is a parity measure under resale and an adequacy measure under UNE. Order completion is measured against the *original CLEC-requested due date.* No due date changes may be made unless explicitly specified by the end user or explicitly agreed to by the CLEC and the BOC. Orders missed for company reasons–load, facilities, or other–are included. Orders missed due to customer reasons are not counted as a miss for purposes of this measure.

- Percent New Service Failures: Measures the number of trouble reports on newly provisioned service during the first 7 to 30 days after order completion. Studies have shown high correlations between trouble reports and provisioning errors within 7 to 10 days, lower correlations beyond 10 days. New Service Failures is an excellent measure of provisioning quality and a reliable determinant of provisioning parity.
- Completed Order Accuracy: Measures the extent to which orders are completed by the BOC as ordered by the CLEC. It represents the quality of the provisioning process from the BOC gateway through order completion. Completed Order Accuracy will likely correlate with New Service Failures, in that about half of new service trouble reports relate to products or services ordered but not installed or products and services installed but not ordered.
- Orders Held for Facilities: Measures service orders not completed for a specified period time, usually 30 days, following the due date, generally for lack of network facilities. This is an important measure in determining whether the BOC prioritizes new facility work in a nondiscriminatory manner.

59. BellSouth has proposed the following provisioning performance measures:

- Percent Service Provisioned Out of Interval: Not proposed as a permanent measurement but negotiated as part of its interconnection agreements with AT&T and Time Warner. Applied to both resale and UNE interconnection arrangements, reported by percent completed over 2 days, 3 days, 4 days, and 5 days.
- Percent Trunk Order Due Dates Missed.
- Percent Service Order Missed Appointments–Company Reasons: Proposed for both resale and UNE.
- Percent New Service Failures–Reports Received Within 30 Days of Installation: Pertains to resale, UNE, and trunk circuit provisioning.

Where appropriate, BellSouth will disaggregate provisioning performance results into two sub-categories, non-dispatch and dispatch out.

60. BellSouth has not included the following provisioning performance measures either in its permanent measurements or in interconnection agreements that I have reviewed:

- Average Provisioning Interval: This is a critical performance measurement. BellSouth states that it has gathered and produced this data but "has not agreed to incorporate this data in the results regularly produced for the CLECs or state commissions, since the set of % Provisioning Appointments Met data already indicates BST's performance in this area" (Stacy Performance Aff. ¶ 52). BellSouth argues that BST and CLECs draw appointments from the same database and further, that the OSS provides appointments on a first come, first served basis. Therefore, they argue, missed appointments are the only necessary means of detecting discrimination in the process.

  In its application, BellSouth provides a table reflecting relative BST/CLEC interval performance in a given month, concluding that the results show "substantially equal levels of performance" (Stacy Performance Aff. ¶ 53). Stacy further claims non-discriminatory performance in Exhibit WNS-10 to his Performance Affidavit, which shows average service order interval results for BST and CLECs.

  One problem with this data is that it measures the interval from service order issuance to *original due date*, not *completion date*. Second, the results represents only one month of data. Finally, analysis of the data, particularly in Exhibit WNS-10B, reveals some significant differences and may not show non-discrimination.

  Average Service Provisioning Interval is critical to a determination of parity or adequacy:

  - First, it is very visible to end users and highly correlates with their perception of their service provider.
  - While due dates may be offered on a non-discriminatory basis, completion dates are the key to this measurement. BellSouth argues appropriately that percent appointments not met may reveal the differences between the original due date and the completion date. However, this is not adequate to detect discrimination.

Even if the percentage of appointments not met are equal, the average completion interval could differ significantly. For example, once missed, BellSouth *could* focus their attention on completing BST service orders at the expense of CLEC service orders.

- BellSouth has made it clear that much of the data required to provide the average interval is readily and abundantly available, although some enhancements may be necessary to partition "next available appointment" orders.

- Port Availability: The only performance measure used to detect discrimination in a total facilities-based interconnection arrangement.
- Completed Order Accuracy
- Orders Held for Facilities

61. Maintenance: Maintenance performance measures depict two sub-processes: (1) trouble reporting and clearance and (2) network quality.

- Trouble Reporting: Trouble reporting performance measures describe how quickly and how well end-user trouble is cleared. Performance parity exists if a CLEC customer trouble is cleared with at least the same speed and quality as the BOC retail or subsidiary customer. This is a highly visible process to the end user and has significant impact on the end user's perception of the service provider. Typical trouble reporting performance measures include the following:
  - Trouble Report Rate: Measured as the number of trouble reports per customer or access line per month (usually annualized). Data is gathered by product and market categories and can be analyzed by cause and other factors. This is the most important measure of service reliability and historically positively correlates with an end user's perception of their local service provider.
  - Percent Repeat Reports: Measured as the percentage of end-user troubles on the same access line within an agreed number of days of the original trouble. Repeat

reports are a key indicator of maintenance process reliability and, historically, have a positive correlation with an end user's perception of local service provider quality. Studies have shown high correlation between repeat reports and repair errors occurring within 7-10 days and lower correlations beyond 10 days.

- Percent Out of Service Over 24 Hours: Measured as a percentage of out-of-service troubles cleared within 24 hours. This measure relates to Mean Time to Restore, but specifically measures parity in *out-of-service* restoral. Required by many state regulatory bodies.
- Percent Missed Appointments: Measures the percentage of trouble reports cleared after the promised appointment. Highly visible to end users. Requires that appointment times, once set, cannot be changed except by the end user.
- Mean Time to Repair: Measured as the average interval from trouble report to clearance. This is the key measure of trouble report cycle time. Should be gathered and reported on a product and market basis.
- Trunks Restored Out of Interval: Measures the percentage of CLEC trunks reported out of service and restored after an agreed-to interval. Important because it impacts the CLEC's ability to handle its traffic efficiently and with a high level of quality.
- Maintenance OSS Availability: Measures the available hours of the BOC's maintenance OSSs, as well as system reliability.
- Maintenance Center Speed of Answer: Measures the average time to reach a BOC repair service representative. An important measure of adequacy in a manual environment or in a mechanized environment where CLEC service representatives have a need to speak with their BOC peers.

- Network Quality: Network quality performance measures measure how well the BOC's network is maintained and whether the BOC's network performance discriminates against new entrants. Comparisons are between the performance distribution for the BOC's retail or subsidiary customers and the performance distribution for CLEC's customers. The

network can be thought to be comprised of three parts: switches, loops, and trunks. Typical performance measures include Number of Major Network Events; System Signaling 7 (SS7) Link and Database Failures; Post Dialtone Delay; various transmission measures, including Loop Transmission Loss, Signal-to-Noise Ratio, Balance, and Idle Circuit Noise; and Blocked Call Attempts. Current network design, architecture, and operating systems making switching and transmission performance measure discrimination highly unlikely. Unless specifically reprogrammed to do so, the network is not likely to recognize the carrier "owner" of a call processing through it. In contrast, a key area for parity or adequacy concern is trunk blockage, where planning and engineering can have a bearing on individual carrier service quality.

- Percent Blocked Calls: Measures trunking grade (quality) of service. It relates to proper forecasting, engineering, provisioning, and maintenance of intraLATA and interLATA trunks. Generally a parity measurement because CLEC results can be compared to similar BOC trunk group results.

62. BellSouth proposes the following maintenance and repair performance measures:

- Trouble Report Rate: Proposed for resale, UNE, and trunks.
- Percent Repeat Reports: Trouble reports received within 30 days of the original report are included. Proposed for resale and UNE.
- Percent Out of Service Over 24 Hours: Proposed for resale.
- Percent Missed Appointments: In its permanent measurements, proposed for resale only, but included for UNE as well in its interconnection agreement with AT&T (Stacy Performance Aff. Ex. WNS-6).
- Mean Time to Repair: Proposed for resale, UNE, and trunks.
- Maintenance Center Speed of Answer: Not proposed in its permanent measurements, but included in its interconnection agreement with AT&T for both resale and UNE.
- Network Downtime, by network element: Included in its interconnection agreement with Time Warner.

- Trunking Grade of Service Blocking: Percentages are proposed for CLEC local service trunk group interconnection, BST local service trunk groups, and common transport trunk groups.

Where appropriate, BellSouth will disaggregate maintenance and repair performance measure results into two sub-categories, non-dispatch and dispatch out.

63. The only maintenance performance measure BellSouth has not proposed in its permanent measurements or in any interconnection agreement is:

- Maintenance OSS Availability.

64. Billing: Billing performance measures measure the timeliness, accuracy, and completeness of end-user billing records and wholesale bills. These are measures of performance adequacy, important because, once provisioned, billing is the most frequent and visible contact an end user has with the provider. Typical billing performance measures include the following:

- Bill Timeliness: Measures the percentage of end-user and wholesale billing records delivered on time.
- Bill Accuracy: Measures the percentage of accurate end-user and wholesale billing records.
- Bill Completeness: Measures the percentage of complete end-user and wholesale billing records.

65. BellSouth has not proposed any billing performance measures in its permanent measurements. However, it includes the following in its interconnection agreement with AT&T:

- Bill Timeliness
- Bill Accuracy
- Bill Completeness

66. Other: Toll and Directory Assistance performance measures measure the speed of response to CLEC customers by BOC operators and speed and accuracy of 911 database updates. They are measures of performance parity. Performance measures include the following:

- Operator Services Toll Speed of Answer: Measures raw interval in seconds or as a percentage under a set objective.
- Directory Assistance Speed of Answer: Measures raw interval in seconds or as a percentage under a set objective.
- 911 Database Update Timeliness and Accuracy: Measures the percentage of missed due dates of 911 database updates and the percentage of accurate updates.

67. BellSouth has not proposed any "Other" performance measures in its permanent measurements or in any interconnection agreements that I have reviewed. However, in its application, BellSouth commits to non-discriminatory access to 911 and E911 services and to maintaining its 911 database for CLECs on the same daily schedule it uses for its own end-user customers. It also commits to non-discriminatory access to Directory Assistance and other Operator Services call completion. (BellSouth Brief at 45)

C. MARKET PARITY

68. Market parity: Market parity ensures that agreed-to performance measures present appropriate customer group comparisons between the BOC and CLECs. This requires the BOC to provide service to appropriate CLEC customer groups at least equal to that provided equivalent customer groups by its retail or subsidiary units. Customer groups generally fall into two categories: Geographic and Class of Service.

- Geographic parity requires that performance measures be identified and measured where a CLEC markets their products. If a CLEC offers service to an entire BOC region, appropriate performance measures would compare CLEC results to total BOC results. If a CLEC offers service to smaller geographic areas, appropriate performance measures would provide comparative BOC results for those areas.
- Class of Service parity requires that performance measures be identified and measured for end-user classes of service targeted by a CLEC. For example, if a CLEC targets only small-business customers, appropriate performance standards would provide BOC results for its small-business customers only for comparison purposes.

69. BellSouth proposes the following market disaggregation of its proposed performance measures results data:

- Geographic: BellSouth proposes to provide results on a company-wide and state-wide basis (Stacy Performance Aff. ¶ 33). The company should also commit to provide results for smaller geographic areas if a CLEC chooses to offer service in those areas.
- Class of Service: BellSouth proposes to provide results by "type of customer, i.e., consumer, small business, or large business." (Stacy Performance Aff. ¶ 33)

D. PRODUCT PARITY

70. Product parity: Product parity ensures that agreed-to performance measures present the appropriate comparisons on a product basis between the BOC and CLECs. This requires that the BOC provide service to CLECs at least equal to that provided by its retail or subsidiary units, measured for the products a CLEC offers to end users. Product parity includes two dimensions: (1) interconnection arrangement, and (2) products or product families within those arrangements.

- Product parity requires that performance measures be identified, measured, and reported for agreed-to interconnection arrangements. This includes both Total Service Resale ("Resale") and Unbundled Network Elements (UNE), including individual elements, element combinations, interim number portability, and platform.
- Product parity also requires performance measures be identified, measured, and reported for products or product families a CLEC offers to end users. Examples include POTS, Subrate data, HICAP data, Centrex, and ISDN. If a CLEC offers DS1 service to its end users as part of a UNE loop resale arrangement, the BOC would need to provide results for service provided to those customers and for its own DS1 customers.

71. BellSouth proposes the following product disaggregation of its performance measures results data:

- Interconnection Arrangement: Performance measures are proposed for resale and UNE, although not all measures have been proposed for both. No measures are proposed for total facilities-based CLECs.

- Products offered to end users: BellSouth proposes to provide results by "type of service provided, i.e., POTS (also referred to as non-designed), and designed or special services" (Stacy Performance Aff. ¶ 33). BellSouth should further commit to provide results for *any* specific product a CLEC chooses to provide end users in South Carolina..

E. REPORTING REQUIREMENTS

72. Reporting requirements should ensure that performance measures are reported in a way that will allow CLECs and regulators to identify whether parity and adequacy have been achieved. Dimensions include (1) availability of data, (2) entities compared, (3) report frequency, (4) report accuracy, and (5) report format.

- Availability of Data: Relates to the availability of partitioned BOC databases that allow CLECs to access performance measure results when and how they require it.
- Entities Compared: Appropriateness of results comparisons relate to the entities for which the data will be provided: BOC retail? BOC subsidiaries? the CLEC? all CLECs? other?
- Report Frequency: Report frequency relates to how often reports will be provided.
- Report Accuracy: Report accuracy and completeness relates to the statistical validity of the proposed data.
- Report Format: Report format relates to how performance standard results are presented. Are they presented in tabular or graphical form? Are they readable and understandable? Can a CLEC or regulator determine whether parity has been achieved? Have control limits been defined? How many standard deviations does the control limit represent? How many months of data are presented? Can trends be detected? How is result seasonality handled?

73. BellSouth proposes the following performance measure report parameters:

- Availability of Data: BellSouth has implemented a data warehouse that will allow CLECs access to performance measure results and raw data (Stacy Performance Aff. ¶¶ 13-15). This is an outstanding advance in creating an environment where CLECs are

not dependant on ILECs for the production of performance measure reports. BellSouth commits to provide access to all measurements described in Stacy's affidavit (Stacy Performance Aff. ¶ 15).

- Entities Compared: BellSouth proposes to provide "performance for CLECs in South Carolina, for all CLECs in BST's nine state region, and comparable total data for all of BST's retail customers." They also have included data for BST in South Carolina only (Stacy Performance Aff. ¶ 20). Although it is *not* clear in the application, I have assumed that "CLECs in South Carolina" includes results for *individual* CLECs. This is implied in its interconnection agreement with AT&T: "enable AT&T to compare BellSouth's performance for itself with respect to a specific measure to BellSouth's performance for AT&T for that same specific measure" (Stacy Performance Aff. Ex. WNS-4 ¶ 1.2).
- Report Frequency: Although the data warehouse will allow CLECs access to raw data at any time, BellSouth generally proposes to provide performance measure reports on a monthly basis.
- Report Format: BellSouth proposes to use statistical process control (SPC) to determine whether services are being provided at parity. Once enough historical data is collected, BellSouth will establish upper and lower levels of performance. Although BellSouth proposes SPC for parity measures, I have assumed, for purposes of this affidavit, that similar methodology will be used for adequacy measures where a "meaningful opportunity to compete" standard is used. BellSouth proposes that monthly variances in results will not be of any concern unless a CLEC is higher or lower than BST for three consecutive months or falls outside of the control limit in any one month. Should this occur, BellSouth commits to performing a "root cause analysis" to determine the reason for the variation.

SPC is an accepted method to reveal more than nominal variation in one-entity process results over time. Using SPC as a determinant of parity between two or more entities is less clear. BellSouth and individual CLECs should negotiate an agreement as

to what constitutes parity given the data that BellSouth has agreed to produce. For example: Does three standard deviations constitute the right range for being "in control"? Does being "in control" automatically mean that two entities are at parity?

VI. CONCLUSIONS

74. BellSouth clearly has committed to provide service to its CLEC customers in a non-discriminatory manner. It further commits to collecting all the necessary data and providing reports to demonstrate parity or adequacy of results.

75. BellSouth proposes a robust set of performance measures for the maintenance and repair process, but less robust measures for provisioning and ordering. No measures are proposed for pre-ordering or billing (although billing measures are included in its interconnection agreement with AT&T).

76. BellSouth's proposed market and product data disaggregation and their proposed performance measure reports and data availability are excellent.

77. Specific performance measures BellSouth should be required to provide include the following. "Include as an ongoing measurement" refers to performance measures included in interconnection agreements but not proposed as a permanent measurement. Critical measures are in italics, and bold face indicates additional emphasis:

- Pre-order OSS Availability
- *Pre-order System Response Times–Five key functions*
- *Firm Order Confirmation Cycle Time*: Complete state-specific development
- *Reject Cycle Time*: Complete state-specific development
- Total Service Order Cycle Time
- *Service Order Quality*: One or more suggested measures
- Ordering OSS Availability
- *Speed of Answer–Ordering Center*
- ***Average Service Provisioning Interval***
- *Percent Service Provisioned Out of Interval*: Include as an ongoing measurement

- Port Availability
- Completed Order Accuracy
- *Orders Held for Facilities*
- *Out of Service Over 24 Hours for UNE*
- *Repair Missed Appointment for UNE*: Include as an ongoing measurement
- Maintenance OSS Availability
- *Billing Timeliness*: Include as an ongoing measurement
- *Billing Accuracy*: Include as an ongoing measurement
- *Billing Completeness*: Include as an ongoing measurement
- Operator Services Toll Speed of Answer
- Directory Assistance Speed of Answer
- *911 Database Update Timeliness and Accuracy*

78. On the basis of the above shortfall, I conclude that BellSouth has not provided sufficient performance measures in its application to make a determination of parity or adequacy in the provision of resale or UNE products and services to CLECs in the state of South Carolina.

The information contained in this affidavit is true and correct to the best of my knowledge and belief.

Michael J. Friduss

Michael J. Friduss

Subscribed and sworn to before me this 24th day of Oct, 1997.

"OFFICIAL SEAL"
Elizabeth H. Sutton
Notary Public, State of Illinois
My Commission Expires [illegible]

NOTARY PUBLIC

My commission expires:

11/2/99

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Application of BellSouth Corporation,	)	CC Docket No. 97-231
BellSouth Telecommunications, Inc.	)	
and BellSouth Long Distance, Inc.	)	
for Provision of In-Region, InterLATA	)	
Services in Louisiana	)	

Exhibit O:
Ex Parte Presentation of BellSouth on Local Number Portability
in CC Docket No. 95-116

EX PARTE OR LATE FILED

BELLSOUTH

Cynthia K. Cox
Executive Director-
Federal and State Relations

DOCKET FILE COPY DUPLICATE

Suite 900
1133-21st Street, N.W.
Washington, D.C. 20036-3351
202 463-4104
Fax 202 463-4198

EX PARTE

October 17, 1997

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20054

Re: CC Docket No. 95-116, Number Portability

Dear Mr. Caton:

Today, Mr. Thomas Alexander, Mr. Dennis Davis, Mr. William Shaughnessy and the undersigned met with Mr. Lloyd Collier, Mr. Len Smith, and Mr. John Scott of the Common Carrier Bureau regarding number portability Phase 1 deployment. The attached document served as the basis for our discussion.

Two copies of this notice are filed in accordance with Section 1.1206(a)(1) of the Commission's rules.

Please call me with any questions on this matter.

Sincerely,

Cynthia Cox

Cynthia Cox

Attachment

cc: Mr. Lloyd Collier (w/o attachment)
Mr. Len Smith (w/o attachment)
Mr. John Scott (w/o attachment)

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Local Number Portability

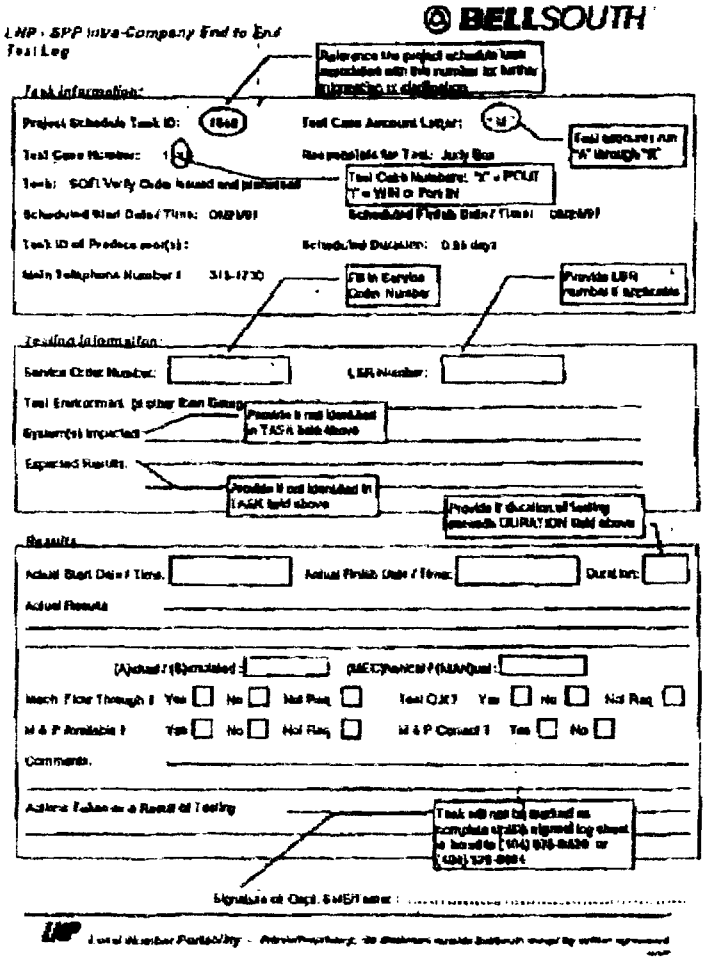
October 17, 1997

◆LNP Intra-company End To End (ETE) Test Plan

- **Test Environment and Responsibilities**
  - **Mission Control Center**
    - **Responsible for Test Plan Tracking and Trouble Shooting**
    - **Communication of Changes, Issues, and Project Status**
  - **Subject Matter Experts (SME)/Testers**
    - **Testing**
    - **Trouble Reporting**
    - **Test Log Completion**
  - **Communication Link**
    - **Open Conference Bridge 8:00 P.M. through 5:30 p.m.**
    - **Text Pagers for SME/Testers**
      - **text pages created when orders are issued/completed**
      - **broadcast trouble / status bulletins**
    - **Daily Conference Call for overall Project Status and Issues**

◆LNP Intra-company ETE Testing Plan

- **Detailed Project Plan, 2800+ lines**
- **Test Logs generated from, and linked directly to Project tasks**
- **Plan and Log Sheets provide documented, seamless, End to End testing accountability**



◆Intra-company End to End Testing

- **Testing scheduled to begin 9/22/97**

- **Actual testing began on 9/25/97**
  - **Delays to scheduled test start**
    - **Patch for 10 Digit Trigger Needed In Toco Hills**
    - **DOE Release Installation to Production**
    - **BONIS data not passed - work-around for systems established**

◆Intra-company End to End Testing

- Number of Test Case Scenarios Planned - 18
- Number of Test Case Scenarios Started - 15
- Total Number of Orders Scheduled to be Issued - 80
- Total Number of Orders Issued as of 10/15/97 - 35

◆LNP 5ESS Network Load Test Results

- Generated 368,000 LNP Queries over 24 hours
- Generated 27,831 LNP queries during busy hour
- No call processing of SS7 Failures with valid 7d or 10D
- 600 NXX codes involved

◆Intra-company ETE Testing - Summary

- **Successfully Tested Using A 5ESS SSP**
  - **Ordered**
  - **Provisioned**
  - **Rendered Billing**
  - **Created Listings**
  - **Completed Routing Test Calls**
  - **Ported-Out, Ported-In, Applied 10 Digit Triggers**
    - **To Various Service Types**

- **Maintenance & Repair Testing**
  - **Scheduled To Begin 10/27/97**

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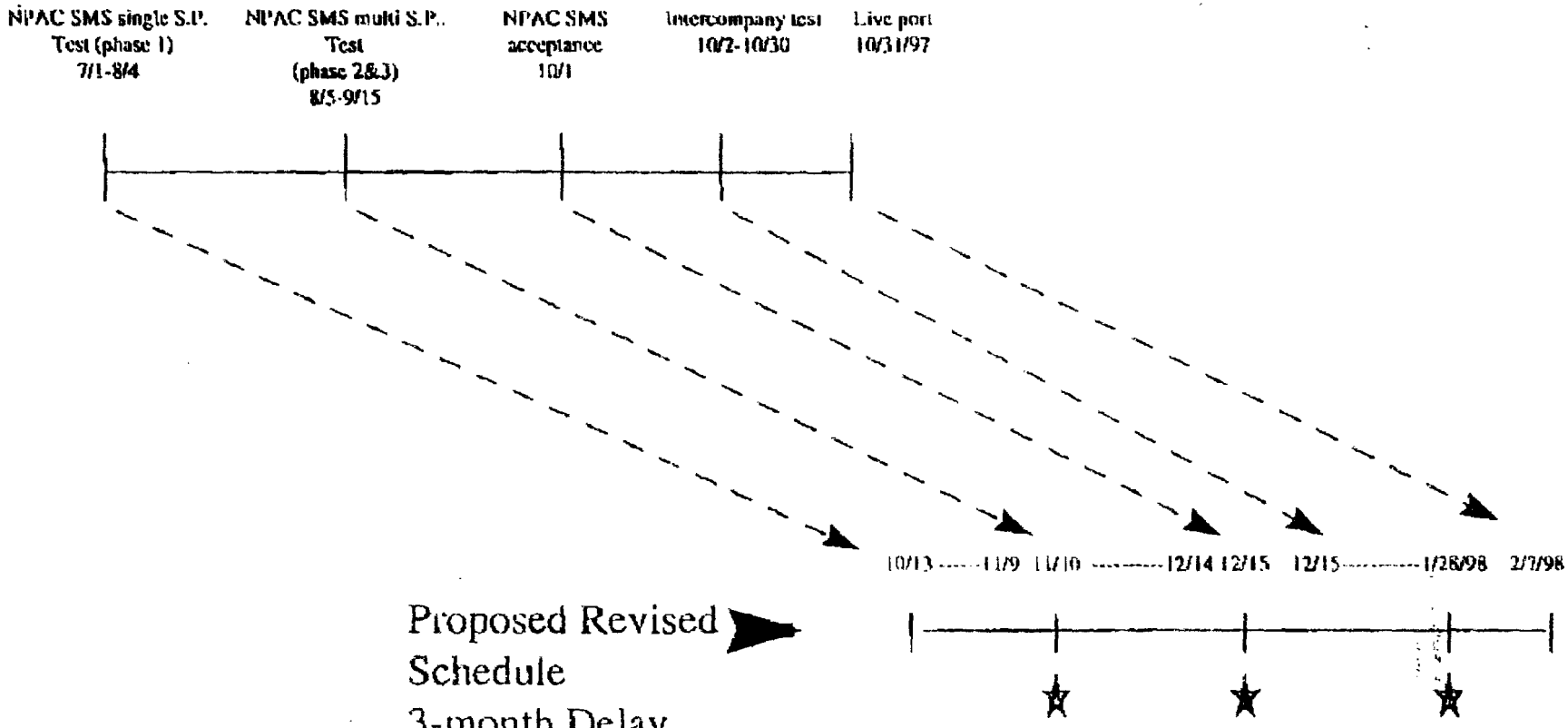
◆Intercompany Critical Path to Local Number Portability

Original Schedule



◆Conclusion

- Intra-company testing is going well
- New intercompany schedule leaves no slack in schedule
- First hand inter-company end to end testing is critical to ensuring porting will occur successfully
- Because ETE intercompany testing can't complete until the end of January, the current deadline in which to request a waiver may not be adequate.